

Syllabus for CHEM 101-023/024/025/026 – Fall Semester 2021

General Chemistry, 3 Credit hours; Pre-requisites MTP or MATH 117; Co-requisites CHEM 111 and Math 118.

Instructor:

Dr. Martina Schmeling, Flanner Hall 408, phone 773-508-3124,

e-mail: mschmel@luc.edu;

URL: <https://www.luc.edu/chemistry/facultystaff/schmelingmartina.shtml>

Class Materials:

Textbook:

Chemistry – The Central Science, 13th or 14th edition, Brown, LeMay, Bursten, Murphy, Woodward, Stoltzfus, Prentice Hall.

Optional Extra Resources:

There will not be any official homework assigned, but if you would like to practice additional problems and/or reinforce concepts covered in lecture and discussion, you can visit different learning resources such as Khan Academy, ChemCollective.com, or ACS Chemistry Education Resources and other reputed websites. You can also use the problem sets at the end of each book chapter to practice. The answers for the red labeled problems can be found at the end of the book.

Objectives:

The course will introduce the fundamental principles of chemistry. You will learn the language of chemistry and develop skills in scientific problem solving and critical thinking. This will serve as a foundation for further study in chemistry, other sciences and related disciplines.

Topics covered are:

- Matter, atoms and their structure, molecules and ions:
Matter and its properties; units, conversions, uncertainties and scientific calculations;
atoms, atomic weights and the periodic table; molecules and molecular compounds; ions
and ionic compounds;
- Stoichiometry and chemical reactions:
Balancing chemical equations; types of reactions; electrolytes; net ionic equations;
stoichiometry and chemical formula; concentrations;
- Thermochemistry:
Energy and chemical reactions; internal energy and enthalpy; calorimetry

- Atomic Structure and the periodic table:
Quantum numbers; orbitals; electron configurations;
- Periodic properties of elements:
Nuclear effective charge; ionic and atomic radii; electron affinities; periodic trends;
- Chemical bonding:
Lewis Structures; bond polarity; molecular geometry; hybridization;
- Gases and their fundamental behavior:
Gas laws; pressure

Class Procedures and Schedules:

Class lectures (CHEM 101-023) will be in person in Flanner Auditorium (FH133) on Tuesdays and Thursdays from 8:00am to 9:15am. Classes will start promptly and will feature both PowerPoint presentations and problem sets worked during the class time. All materials will be posted on the Sakai class website after the lecture is concluded, typically within 24-48 hours. Specific details where to find the materials will be provided in lecture.

Discussions (CHEM 101 – 024/025/026) are scheduled for Monday mornings and will meet in person. Please consult the Fall 2021 course schedule for your discussion meeting time. Like the lecture, discussions will also start promptly. Participation in **discussion** sections is mandatory and will make up **20%** of the final grade. Discussions are designed to facilitate learning and gain extra practice and there will be time to ask questions. In general, discussions sheets will be distributed in the beginning and selected problem sets will be worked on the board by the instructor. The remaining problem sets, will be completed by you during the remaining time. You must submit your signed discussion sheet to me at the end of each discussion to obtain credit. The discussion solutions will be posted within 24-48 hours after that week's discussion. Besides the mandatory discussions, I highly recommend that you form in person or virtual study groups to go over the material covered in class and prepare for the exams.

Lectures and discussion will not meet on Oct. 11 and 12 (Midsemester Break) and November 24-27 (Thanksgivings Break). For other important dates please check the detailed fall semester calendar: https://www.luc.edu/academics/schedules/fall/academic_calendar.shtml

Exams and Grading:

Three in class exams in addition to the final exam are scheduled for **September 28 (Tuesday), October 28 (Thursday), and December 2 (Thursday), 2021**. The final exam will take place on **Thursday, December 16, 2021 from 8:00-10:00PM**. The room for the final exam will be announced closer to actual date.

Exams will be distributed in a predetermined pattern and you should only sit where an exam sheet is laying and wait for instructions. All exams will be multiple choice and you need only pencil, eraser, and your calculator. Scratch paper and periodic tables will be available, if needed.

The student(s) who has the highest number of correct answers will receive a 100% for the exam. All other students will be graded relative to that. The lowest scoring exam will be dropped and the **average of the top two scoring in class exams** counts **60%** of the final grade. Participation in the three in-class exam is mandatory and **no make-up exams** will be given. If a student misses for any reason one in-class exam, this exam will be counted as the lowest scoring exam.

The **final exam** is mandatory for everybody and will count **20%** of the final grade. Like the in-class exam, the final will also be multiple choice.

There will be no make-up final exams given under any circumstances, and the exam will not be given earlier either. If for any reason a student misses the final exam he/she must consult with Dean Patricoski (apatricoski@luc.edu).

20% of the total grade will be comprised of the **discussion**. The discussions will not be graded for correctness, but rather for completion and attendance and you must return your discussion sheet at the conclusion of that days' discussion to obtain credit.

Grading Scale in %

100-94%	A
93-88%	A-
87-85%	B+
84-79%	B
78-75%	B-
74-71%	C+
70-64%	C
63-60%	C-
59-50%	D
<50%	F

Office Hours:

Office hours are scheduled for **Monday between 8:00 and 9:00 AM and Thursday from 9:30-10:00 AM**. Office hours will be in-person and/or virtual. You should e-mail me ahead of time if you would like to meet so that I can set-up a schedule to accommodate all students.

Academic Integrity:

All students are expected to perform the highest level of academic integrity while taking exams and must read and abide by the demanding standard of personal honesty, drafted by the College of Arts and Sciences. This can be found at:

https://www.luc.edu/academics/catalog/undergrad/reg_academicintegrity.shtml

It is your responsibility to read this and behave correspondingly. Anything you submit that is incorporated as part of your grade in this course must represent your own work. **Any students caught cheating will, at the very minimum, receive a grade of “zero” for the item that was submitted and this grade cannot be dropped**. If the cheating occurred during a course exam the incident will be reported to the Chemistry Department Chair. Depending on the seriousness

of the incident, additional sanctions may be imposed.

Student Accommodations:

Students seeking academic accommodations for a disability must contact the Student Accessibility Center (SAC) to establish eligibility and form of accommodations. Students may call SAC in Sullivan Center - Suite 117 at 773-508-3700, email sac@luc.edu, or visit their website <https://www.luc.edu/sac/> to begin the process. Students are encouraged to contact SAC as early in the semester as possible.

Other Policies:

Return to Campus:

Please be familiar with and adhere to all guidelines posted on the On-Campus Guidelines in Classroom Scenarios of the Return to Campus Guidelines site:
<https://www.luc.edu/returntocampus/classroomscenarios/>

Mask Policy:

It is Departmental policy that, even in the event the University relaxes its universal requirement for indoor mask-wearing during the Fall 2021 semester, it will remain a principle of this class-section that, out of respect for the health of housemates and others in regular contact with members of our community, in this class we properly wear masks at all times (e.g. over nose and mouth).

Seating Policy:

Per university policy students are asked to select a seat in the beginning of the semester and continue using the same seat during the course of the semester.

Privacy Policy:

The covered course material will be posted on the Sakai class website within 24 -48 hours after lecture/discussion. Please be aware that the posted course material is copyrighted and cannot be shared with anybody outside the course without written permission by the instructor.

Lecture Recordings:

Some lectures might be recorded/pre-recorded and the recording will be posted on Sakai in a dedicated folder. Please note that the use of all video recordings will be in keeping with the University Privacy Statement shown below:

Assuring privacy among faculty and students engaged in online and face-to-face instructional activities helps promote open and robust conversations and mitigates concerns that comments made within the context of the class will be shared beyond the classroom. As such, recordings of instructional activities occurring in online or face-to-face classes may be used solely for internal class purposes by the faculty member and students registered for the course, and only during the period in which the course is offered. Students will be informed of such recordings by a statement in the syllabus for the course in which they will be recorded. Instructors who wish to make subsequent use of recordings that include student activity may do so only with informed

written consent of the students involved or if all student activity is removed from the recording. Recordings including student activity that have been initiated by the instructor may be retained by the instructor only for individual use. <https://www.luc.edu/ool/onlinecourseguidelines/guidelinesforrecordingstudentsduringonlineclasses/>

Students with Co-Curricular Activities:

Students missing classes while representing Loyola University Chicago in an official capacity (e.g. intercollegiate athletics, debate team, model government organization) are allowed to make up any assignments. Students have to provide proper documentation describing the reason for and the date(s) of the absence and this documentation has to be signed by the instructor **before the absence occurs**. The student missing a class or assignment is responsible for making up that assignment at the time negotiated with the instructor.

(<https://www.luc.edu/athletheadvising/attendance.shtml>). Please be proactive and contact me as early as possible and send a reminder e-mail a couple of days before the absence.

Course Repeat Rule:

Effective with the Fall 2017 semester, students are allowed only THREE attempts to pass Chemistry courses with a C- or better grade. The three attempts include withdrawals (W). After the second attempt, the student must secure approval for a third attempt. Students must come to the Chemistry Department, fill out a permission to register form or print it from the Department of Chemistry and Biochemistry website: <http://www.luc.edu/chemistry/forms/> and personally meet and obtain a signature from either the Undergraduate Program Director, Assistant Chairperson, or Chairperson in Chemistry. A copy of this form is then taken to the Academic Advisor of the student in Sullivan to secure final permission for the attempt.

Accommodations for Religious Reasons:

Students who observe religious holidays, which will cause missing class or otherwise effect performance in the class must alert the instructor within 10 calendar days of the first class meeting of the semester to request special accommodations, which will be handled by a cases by case basis.